PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE SAN FRANCISCO, CA 94102-3298



2013 Ex-post Efficiency Savings and Performance Incentive (ESPI)

Performance Statement Report

August 15, 2015

1. Introduction

This Final Performance Statement report provides Commission Staff's proposed earnings amounts for the evaluated or ex-post portion of the 2013 Efficiency Savings and Performance Incentive (ESPI), as well as true-up adjustments to the reported or ex-ante portion of the 2013 ESPI, paid last year. These earnings amounts reflect the following:

- Adding 5% to the lifecycle gross savings to account for market effects
- Making adjustments to make sure records from the ex-ante payment and ex-post payments are not double counted
- Making adjustments to correct for issues with database versions (mainly impacts PG&E)
- Not making adjustments for CFL carry-over: All CFLs purchased in the 2010-2012 program cycle already earned a management fee from the 2010-2012 shareholder mechanism in place at that time.

The IOUs will use these final values in an advice letter filing. The actual award will come in the form of a resolution from the CPUC in response to the advice letter.

2. Regulatory Background

D.13-09-023 adopted the Efficiency Savings and Performance Incentive (ESPI) and ordered Commission Staff to submit 2013 ex-post results by December 31, 2014. On December 24, 2014, Interim Executive Director Timothy Sullivan granted Commission Staff's extension request to submit draft evaluation results by March 31, 2015. Commission staff is working on process improvements to continue to streamline the outputs for the ESPI deliverables and the transparency and accessibility of the deliverables.

Commission Staff posted the 2013 ESPI memos on March 9, 2015 and held a public stakeholder workshop on March 25, 2015. On April 21, 2015, Pacific Gas and Electric Company (PG&E) and Southern California Edison Company (SCE) filed joint comments, while San Diego Gas and Electric Company (SDG&E) and Southern California Gas Company (SCG) filed individual comments¹. Commission Staff and its evaluation

¹ All comments are located here: http://www.energydataweb.com/cpuc/comment.aspx?did=1253

consultants reviewed the technical comments and made edits to the memos and data where necessary, and posted the final memos and 2013 ESPI database to the CPUC web site² on May 7, 2015.

Commission staff issued the Draft 2013 ESPI Performance Statement report on June 15, 2015 and held a public input webinar on June 18, 2015. PG&E, SDG&E, and SCG filed timely comments by July 13, 2015. Commission staff and its evaluation consultants reviewed the comments and made edits to this report, where applicable. A matrix of comments and responses can be found in Appendix E. Supporting documentation for this Final 2013 Performance Statement Report can be found at

http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/Shareholder+Incentive+Mechanism.htm.

3. Earnings

Based on the values from the 2013 ESPI database and the earnings coefficients established in D.13-09-023, Commission staff recommends the following earnings amounts for utility performance of 2013 energy efficiency program activity. These amounts include increases to add 5% for market effects and adjustments to ensure exante and ex-post payments are not double counted (this is the column *Adjusted ExAnte Review Earnings**.) These amounts do not include any adjustments for CFL carry-over. All CFLs purchased in 2010-2012 program cycle already earned a management fee from the 2010-2012 shareholder mechanism in place at that time; therefore, any savings carried-over into 2013 will only apply to goal attainment and not ESPI purposes:

Table 1 – Proposed 2013 Ex-Post Earnings by Utility

	kWh Earnings	kW Earnings	Therms Earnings	Sum of ExPost Earnings	Adjusted ExAnte Review Earnings*	Total New Payment
PG&E	\$8,546,888	\$3,778,597	\$2,523,458	\$14,848,943	-\$115,673	\$14,733,270
SCE	\$7,532,558	\$3,043,705		\$10,576,263	-\$121,040	\$10,455,223

² http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/Shareholder+Incentive+Mechanism.htm

SCG			\$2,142,209	\$2,142,209	-\$248	\$2,141,962
SDG&E	\$1,990,531	\$879,146	\$5,753	\$2,875,429	-\$48,217	\$2,827,212
Total Statewide	\$18,069,977	\$7,701,448	\$4,671,419	\$30,442,845	-\$285,178	\$30,157,667

^{*} Please see Appendix D for an explanation of differences between the values above and those in the Draft Performance Statement Report dated June 15, 2015.

These amounts are below the resource savings earnings caps established in Attachment 1 of D.13-09-023, and shown in Table 1a:

Table 2a – 2013 Resource Savings Caps

	Energy Savings Performance Awards (capped at 9% of resource program budget minus C&S)				
	2013-2014 ESPI 2013 ESPI E Ex-Post Cap Post Cap				
PGE	58.9	29.45			
SCE	40.9	20.45			
SCG	12.5	6.25			
SDGE	14.5	7.25			
Total	126.8	63.4			

The earnings are based on the lifecycle net electric, demand, and natural gas savings for both deemed and custom measures. In Table 2 the ex-post lifecycle net savings values for both deemed and custom measures are shown along with how the savings translates to the proposed earnings amounts in Table 1. The row "Total Payment" includes the addition of 5% for market effects.

Table 3 - 2013 Ex-Post Savings for Lifecycle (LC) Custom and Deemed by Utility

	Electric (GWh)	Demand (MW)	Natural Gas (MM Therms)	Total
PG&E				
ExPost (LC Net) Deemed	956	225	-4	
ExPost (LC Net) Custom	2,158	336	113	
Total ExPost LC Net	3,114	560	108	
Earnings Rate	\$2,525	\$6,200	\$21,331	
Payment (Before Market Effects)	\$7,863,966	\$3,472,308	\$2,311,596	\$13,647,870

	Electric (GWh)	Demand (MW)	Natural Gas (MM Therms)	Total
Total Payment	\$8,546,888	\$3,778,597	\$2,523,458	\$14,848,943
SCE				
ExPost (LC Net) Deemed	1,383	214	-17	
ExPost (LC Net) Custom	1,369	239	3	
Total ExPost LC Net	2,752	453	0	
Earnings Rate	\$2,525	\$6,200	\$21,331	
Payment (Before Market Effects)	\$6,948,808	\$2,807,583	N/A	\$9,756,391
Total Payment	\$7,532,558	\$3,043,705	N/A	\$10,576,263
SCG				
ExPost (LC Net) Deemed	0	0	18	
ExPost (LC Net) Custom	13	13	76	
Total ExPost LC Net	13	13	93	
Earnings Rate	\$2,525	\$6,200	\$21,331	
Payment (Before Market Effects)	N/A	N/A	\$1,988,673	\$1,988,692
Total Payment	N/A	N/A	\$2,142,209	\$2,142,209
SDG&E				
ExPost (LC Net) Deemed	412	78	-4	
ExPost (LC Net) Custom	315	53	4	
Total ExPost LC Net	727	131	0.2	
Earnings Rate	\$2,525	\$6,200	\$21,331	
Payment (Before Market Effects)	\$1,835,919	\$811,789	\$5,221	\$2,652,930
Total Payment	\$1,990,531	\$879,146	\$5,753	\$2,875,429

4. Components of the Earnings Calculation

Earnings Coefficients

D.13-09-023 established the earnings coefficient to apply to each unit of savings each IOU achieved in 2013, on an ex-post basis:

Electricity (\$/MWh) \$2,525 Peak Demand (\$/MW – Yr) \$6,200 Natural Gas (\$/MMTh) \$21,331

Commission staff applies these coefficients to the net lifecycle ex-post values per IOU for kWh, kW, and therms.

Lifecycle Savings

To estimate lifecycle kWh, kW, and therms savings, Commission Staff applied the expost parameters from the final 2013 ESPI memos. Per Attachment 2 of D.13-09-023, the following parameters may be updated for purposes of determining performance:

- 1. Measure Installations/Measure Count
- 2. Unit Energy Savings
- 3. Gross Energy Savings (product of 1 and 2)
- 4. Net-To-Gross Ratios by Program Strategy and/or Measure
- 5. Net Energy Savings (product of 3 and 4)
- 6. Effective Useful Life
- 7. Load Factor or Daily Load Shape used to transform annual electricity savings estimates into peak savings estimates
- 8. For custom projects, all components of the projects will be subject to review. An evaluation based estimate of the savings claim for custom projects in the defined program year will be applied

Ex-Post Results

Commission staff's evaluation contractors produced 2013 ex-post ESPI memos (hereafter 2013 ESPI memos) for "uncertain measures" as identified in D.13-09-023. The evaluation results are discussed in detail in the following memo:

http://www.cpuc.ca.gov/NR/rdonlyres/3F9E5EF6-E399-47AB-80D3-821FB3C9FB76/0/2013ESPIMemosFinal.docx.

Table 3 shows which uncertain measures received ex-post parameter updates based on field work or best available information. Section 5 shows the decision-tree for when Commission staff applied ex-post results or passed through reported values.

Table 4 - Measures that Received Ex-Post Updates

Applied results from field work	Used best available information
Behavior	HVAC quality maintenance
Custom projects	HVAC mini-split
Non-res new construction	Residential lighting (CFLs)
Sprinklers (Net-to-Gross only)	Home upgrade program
Pipe insulation Sprinklers (Net-to-Gross only)	Water kits
Non-res downstream lighting	Pool pump

5. Creation of Ex-Post Dataset

Commission staff utilized the detailed quarterly tracking data for 2013 as the foundation for prioritizing evaluation activities and applying updates from evaluation work. The ex-post 2013 ESPI memos carried out Commission staff's guidance to make updates to the claims on a parameter basis. Commission staff and evaluation contractors utilized the following options in making updates to the utility savings claims for the aforementioned parameters:

- 1. Pass through: Accept reported savings values for claims that do not fall within the frame of an impact evaluation (no change); or
- 2. Leverage results from a 2013 ESPI memo: Apply stratum-level results to records included in the frame of an impact evaluation. These data are considered "evaluated results" and are used in the context of this report.

Evaluation Decision Tree

The decision tree in the following figure illustrates how Commission Staff updated IOU claims with evaluation results from the 2013 ESPI memos.

More detailed information regarding how the ex-post dataset was created can be found in Appendix C.

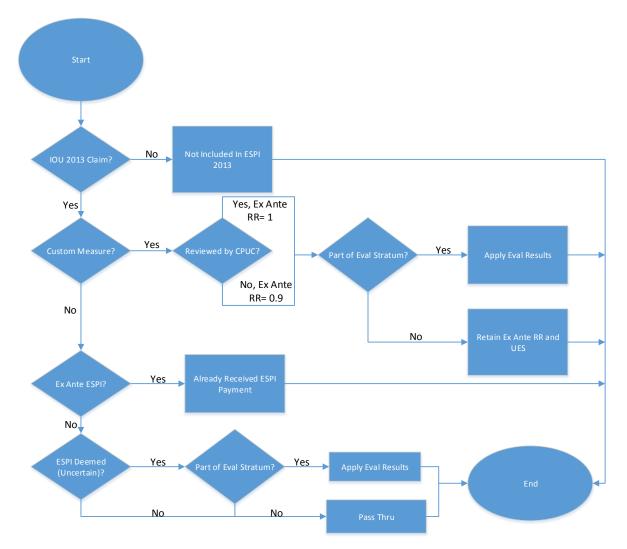


Figure 1: Evaluation Framework Decision Tree 2013 ESPI

6. Biggest Drivers of Change in Earnings

This section provides three different looks at the portfolio based on the 2013 ESPI process.

The first subsection presents the relative effect that updates to each of the parameters has on the overall claimed savings. These graphs illustrate how the evaluated

parameters change the life cycle savings first from gross ex-ante to gross ex-post and then to net ex-post. These graphs allow the reader to see which parameters had the biggest impact on evaluated net savings (i.e. was it the installation rate, or UES, or the EUL, or the NTG).

The next subsection shows how much of the net lifecycle savings values were "Passed Through vs. Evaluated" so the reader can see what percent of the portfolio savings were "touched" or updated based on an evaluation result.

Finally, the last section presents the distribution of savings by ESPI measure group for those measures that make up the 2013 ESPI Deemed Uncertain measures. This allows the reader to see which measures had the largest contribution to savings.

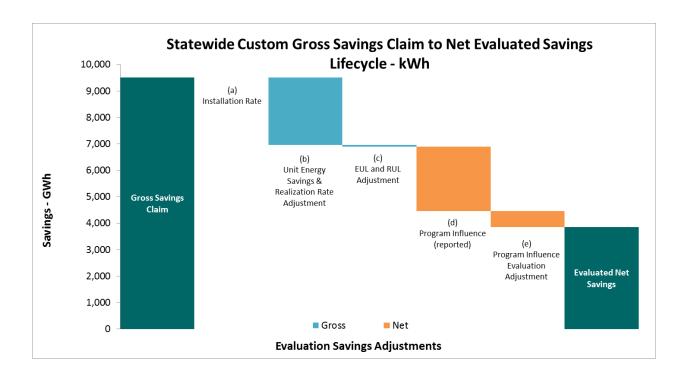
a. Key Drivers of Evaluation Updates – Parameter Updates

The following graphics provide an illustration of the relative influence of each parameter update. Several caveats are necessary to appreciate the limitations and value of these graphics, and in fact their calculation is pathway-dependent. First, more than one parameter update may have been applied to a measure (e.g. unit energy savings and installation rate were updated for an installed light bulb). Hence the influence of each parameter cannot be completely isolated but they interact. Second, the parameter may have multiple factors within its calculation that could influence the value (e.g. hours of use within the unit energy savings) and this break down is at the highest parameter level. Third, the parameter gauging program influence (the net to gross ratio) is estimated in the program plans, and in many cases updated with evaluated results. The graphics show the program attribution in its two constituent parts to illustrate the additional net adjustments from evaluation relative to the already assumed net adjustment. The following parameter adjustments in the graphics are defined as follows:

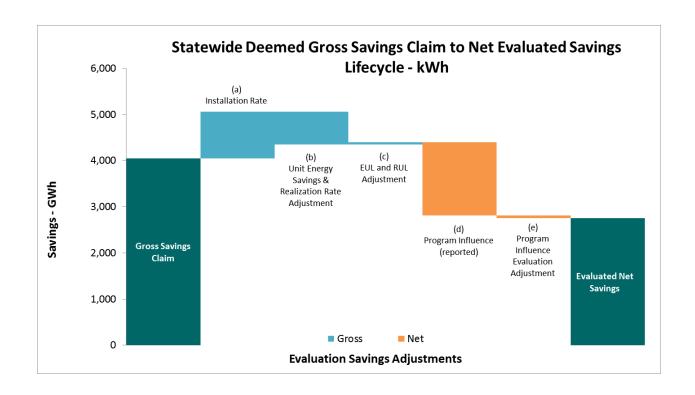
- a) Installation Rate the units were verified as installed and operating
- b) Unit Energy Savings & Realization Rate Adjustment
 - i. Unit Energy Savings (UES) savings per unit installed (primarily for deemed measures)

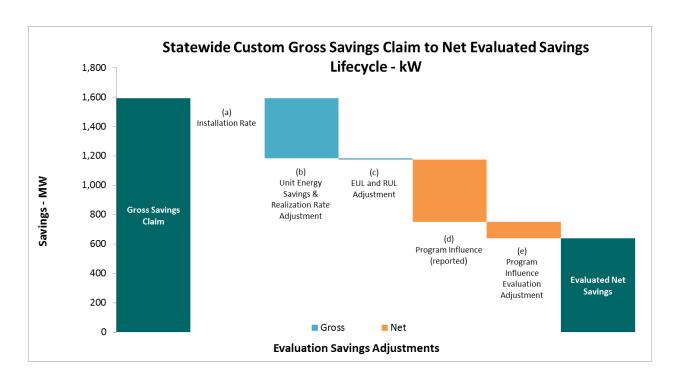
- ii. Realization Rate (RR) savings achieved versus expected (ratio used primarily for custom projects)
- c) Effective Useful Life/Remaining Useful Life Adjustment adjustments made to EUL and RUL
- d) Program Influence Expected Adjustment (reported) planning assumption of program influence
- e) Program Influence Evaluation Adjustment incremental difference in program influence found through field evaluation

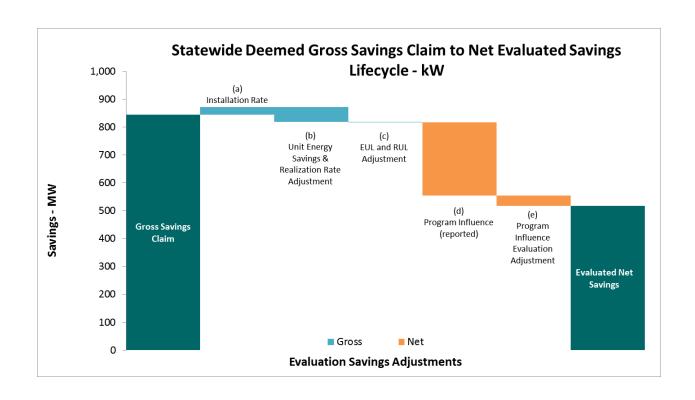
The statewide results are provided in the following series of graphics³, while the utility specific results are presented in the attached appendix.

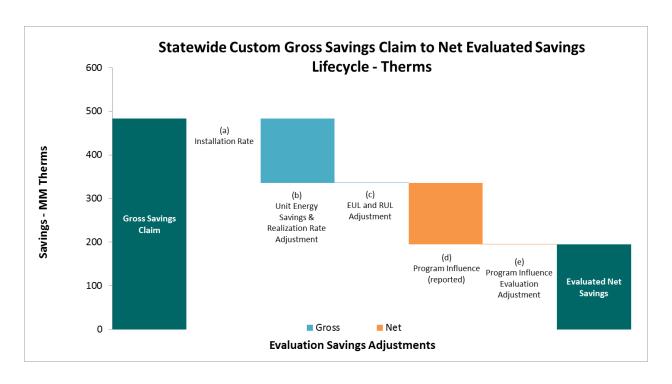


³ The lifecycle therm savings for deemed measures graph is not included in this report, intentionally, due to difficulties graphically displaying the negative therm values.



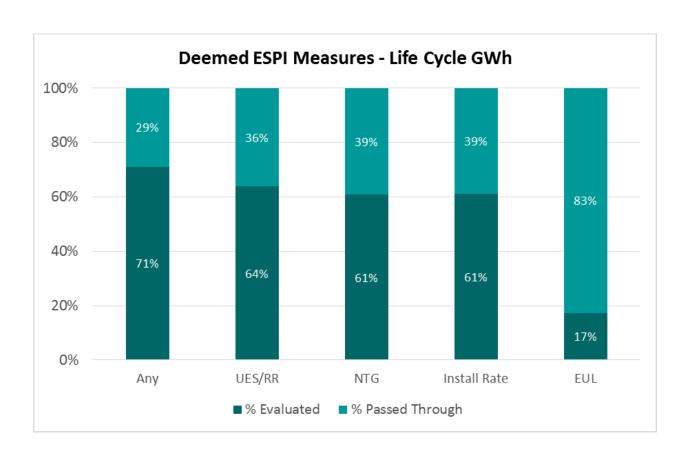


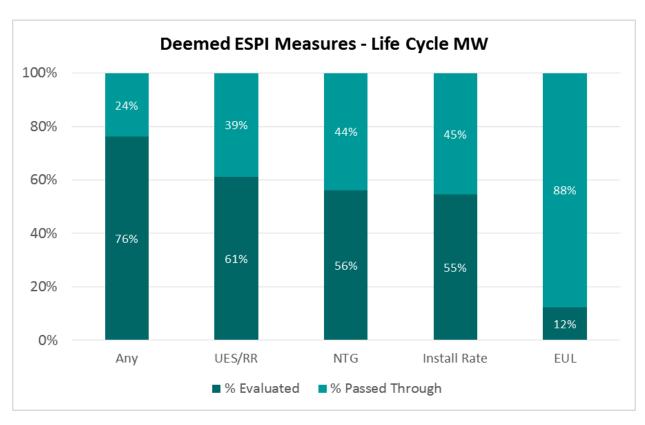


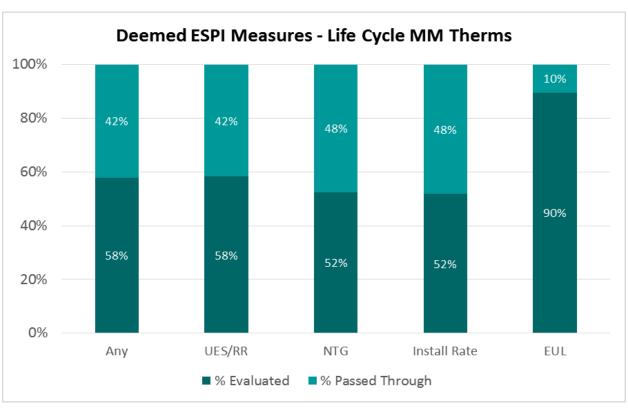


b. Key Drivers of Evaluation Updates – Pass-Through versus Evaluated Records

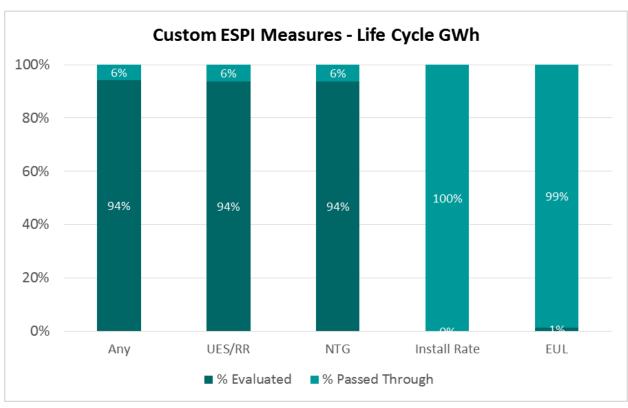
These charts show the evaluation lifecycle savings and what percent received an evaluation update for each parameter. The 2013 ESPI memos only covered a portion of the portfolio, with 29% of the deemed lifecycle kWh savings and 42% of the lifecycle therm savings being passed through. However, for custom measures, 94% of lifecycle kWh savings and 96% of lifecycle therm savings received some evaluation update. Notably, for custom and deemed measures, the EUL parameter was the least evaluated. The lifecycle therms chart is included, but please note that in order to calculate a percentage of savings that were passed through, an absolute value of the savings was taken.

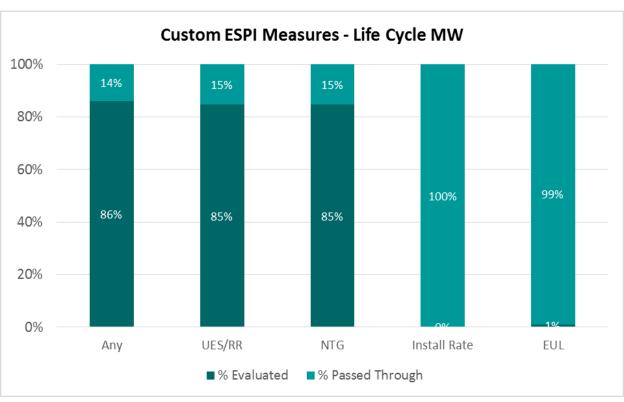




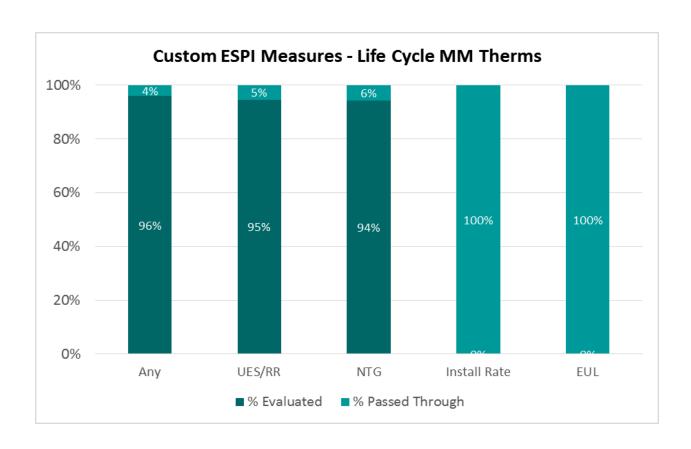


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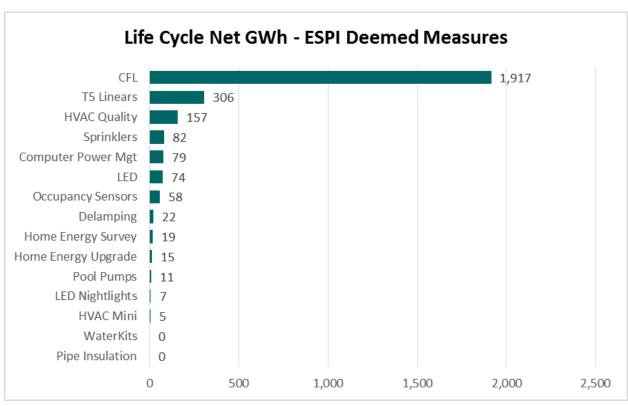


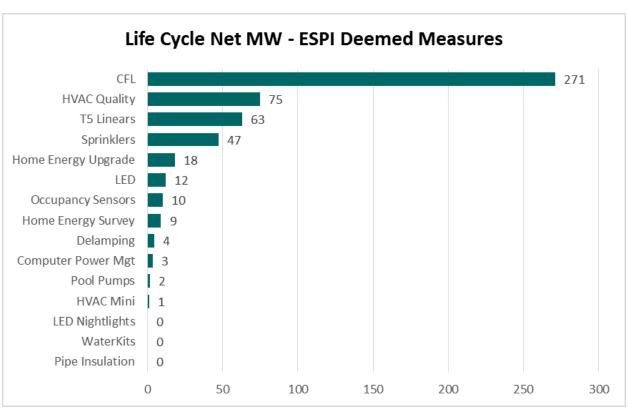
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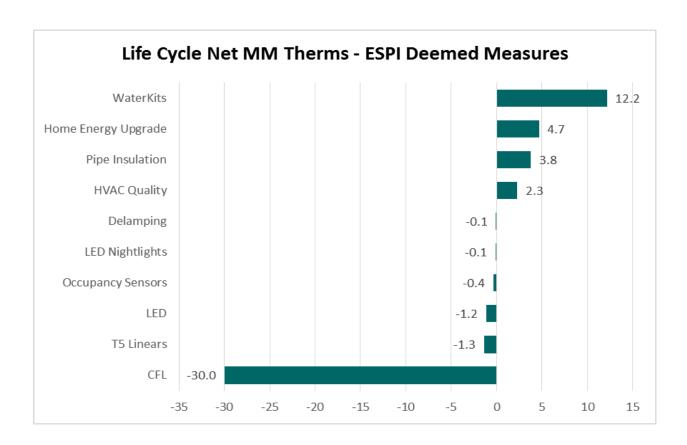


c. Key Drivers of Evaluation Updates – Largest ESPI Deemed Measures

These charts rank the deemed uncertain measures and their contribution to statewide lifecycle electric, demand, and natural gas ex-post savings. CFLs continue to be a significant portion of the portfolio in 2013, contributing the most to lifecycle GWh and MW for 2013 ESPI purposes. Water Kits were the largest contributor for lifecycle therm savings (again, this is within the 2013 ESPI Deemed uncertain measure savings and does not include therm savings from Codes & Standards, ESPI Custom or ESPI Deemed – ExAnte review).







7. Appendices

All the tables and charts used in this report can be found in Appendix A. In addition, Appendix A also includes the IOU specific workbooks. All the measure level data and queries used to build the tables in Appendix A can be found in Appendix B. Appendix C includes more detail on how the final dataset was developed. Appendix D provides a detailed explanation of the difference between the payments from the June 15, 2015 Draft 2013 Performance Statement report and this Final 2013 Performance Statement Report. Appendix E provides a response for comments on the Draft 2013 Performance Statement report submitted by July 13, 2015.

Appendix A. 2013 Performance Statement Workbook

Appendix B. 2013 ESPI Database

Appendix C. Creation of Ex-Post Dataset

Appendix D. Differences between Draft and Final Payment Values

Appendix E. Comment - Response Matrix

Appendix A: 2013 Performance Statement Workbooks

The 2013 ESPI workbooks can be found at:

http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/Shareholder+Incentive+Mechanism.htm

The embedded workbook below was used to create all results tables and graphs presented in this report. This embedded workbook includes the statewide results. These are presented separately from IOU-specific results (available via the link above), giving rise to five workbooks in total. Each workbook contains results data by Scenario, PA, ESPI Group, ESPI Category, Uncertain Measure, having Evaluation Results, Measure Group, and RoadMap ID. The results include Record Counts, Quantities, and Gross and Net First Year and Life Cycle Savings. The subsequent tables and charts are derived from this data.

The workbooks contain tables and graphs not available in the report. These are provided to allow the reader to interpret the results at a finer level of detail.



ESPI_2013_Results_T ables_DraftFinal_SW.x

Appendix B: 2013 ESPI Database

The 2013 ESPI database can be found at:

http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/Shareholder+Incentive+Mechanism.htm

This database includes a table with the detailed claim level data for the four IOUs. For each record, the ExAnte and ExPost⁴ savings values (including gross and net, first year and life cycle) are available. In addition, the parameter level data is also included (including ExAnte and ExPost values). This database table is the basis for this report and the aggregated data presented in the Excel files in Appendix A.

The queries included in this database were developed to verify that the data in the database match the aggregated data in the Excel file (included in Appendix A) which was then used to produce all tables and graphs in this report. The ReadMe file below provides information detailing the contents of each query and identifies the Excel tables each is intended to match.



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⁴ Note that the ExPost values for ESPI Deemed ExAnte Review and Codes & Standards records are only pass through values at this time.

Appendix C: Creation of Ex-Post Dataset

Claim Data

The utility energy efficiency program tracking data forms the basis for critical program reporting functions and for evaluation sampling and execution. The cumulative 2013 Q1 – 2014 Q4 quarterly tracking claim data subset for 2013 is the foundation for the values in this report.

Claim Submission Processing

The following steps were followed to process the program tracking data in preparation for ESPI 2013:

- 1. Receive FTP link to download data from IOUs
- 2. Write IOU data together into standardized tables
- 3. Clean data and create "EDFilled" table
- 4. Quality check the data submission
- 5. Post IOU data submissions and "EDFilled" table onto ED Central Server (EDCS) and into SQL Server database

Data Cleaning

Although the IOU claims have continuously improved from quarter-to-quarter and cycle-to-cycle, the central data set still required some level of data cleaning to enable processing through the cost effectiveness tool. Data elements necessary for evaluation were cleaned by the CPUC evaluation contractors in conjunction with IOU staff. Throughout the cycle, the amount of data cleaning necessary was continuously reduced as IOUs improved their reporting capabilities. The result of the data cleaning process was a table named "EDFilled," which contains all cleaned ex-ante IOU data necessary for evaluation teams.

Validation and Quality Control

The main component of the Energy Division's data cleaning process was a quality control algorithm. All quality control algorithms were communicated to the IOUs via the Data Transfer Tool, an Access file that the PAs use to transfer their quarterly tracking data to the ED and QC their own data before transferring. The end product was a clean, consistent data set of claims which were ready for evaluation sampling and update.

Evaluation Data

Evaluation data provided in the final 2013 ESPI memos forms the basis for ex-post updates for this report. Evaluation data is reported by evaluation teams, and each evaluation team provides stratum-level results for each parameter being evaluated. The evaluation results are discussed in detail in the ESPI memorandums.⁵

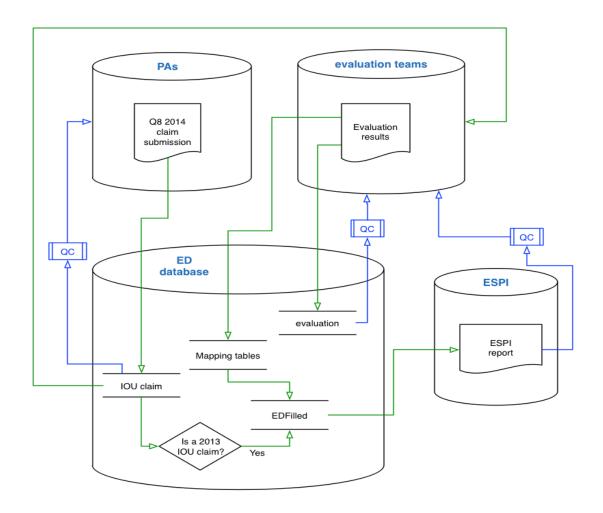
Evaluation Data Processing

The following steps were followed to process the evaluation data in preparation for ESPI 2013:

- 1. Evaluation team posts evaluation data submission database to Smartfile
- 2. Bring evaluation data into SQL Server database
- 3. Write evaluation data together into the Evaluation table
- 4. Quality check the data submission

⁵ http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/Shareholder+Incentive+Mechanism.htm

Figure 2: Claims Processing



Evaluation Decision Framework

Commission staff utilized the detailed quarterly tracking data, described in the prior section, as the foundation for prioritizing evaluation activities and applying updates from evaluation work. The detailed evaluation plans carried out Commission staff's guidance to make updates to the claims on a parameter basis in addition to meeting other evaluation objectives.

Commission staff and evaluation contractors utilized the following options in making updates to the utility savings claims for the aforementioned parameters:

- 1. Pass through: Accept reported savings values for claims that do not fall within the frame of an impact evaluation (no change); or
- 2. Leverage results from an evaluation study: Apply stratum-level results to records included in the frame of an impact evaluation. These data are considered "evaluated results" and are used in the context of this report.

Evaluation Decision Tree

The decision tree in the following figure illustrates how IOU claims were updated with evaluation results for ESPI 2013 and applies to all parameter updates.

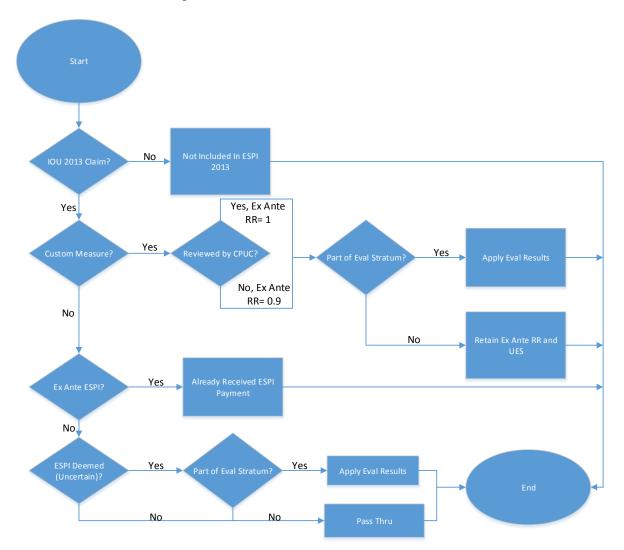


Figure 3: Evaluation Framework Decision Tree

ESPI 2013 evaluation results were submitted by the evaluation teams in the form of memos. Each ESPI memo was reviewed and vetted via the public review process, and the final numbers were provided to the data reporting team. Evaluation results were downloaded and processed into the SQL Server database on the Energy Division Central Server (EDCS), an internal server (not publicly available) used to manage the data in a secure environment. Evaluation results are reported in two phases: the first phase is to deliver the data required to apply evaluation results to the final ESPI 2013 claim. In the second phase the evaluation contractors provided the

logic which assigns ESPI 2013 claims into strata. A visual of this process is provided in the following figure.

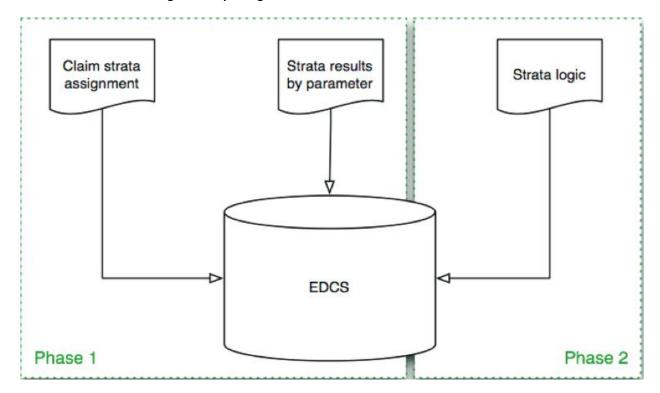


Figure 4: Reporting of Evaluation Results: Phase 1 and Phase 2

Following phases one and two is the third and final phase of evaluation data reporting. Phase three covers submission of all raw and processed evaluation data.

Phase 1 Data Specification

The data specification for evaluation results submitted by evaluation contractors consists of two primary components: record assignments to strata (the blue table in the middle of the following figure), and evaluation parameter results by strata (the five other black tables of the following figure). The two components are linked to assign evaluation parameter results to claim records in a transparent relationship. The connection and resulting data is designed to be consistent with the field evaluation sample structure.

Phase 1 Data Elements

- 1. Parameter by Strata (PbS) evaluation parameter results for each strata
- 2. Strata by ClaimID (SbC) assignment of claim lines to strata. These two data elements are brought together to assign evaluation results to the claim data.

Claim Strata **Assignments** ClaimID **UESstrata NTGRstrata EULstrata** IRstrata · RRStrata UES EUL IR **UESstrata EULstrata IRstrata** EvalUESkW **EvalEUL** EvallRkW EvalUESkWh **EvalRUL** EvallRkWh **EvalUEStherms EvalIRtherms** EvalER_UESkW EvalER_UESkWh EvalER_UEStherms NTG RR NTGRstrata RRStrata **EvalNTGRkW EvalRRkW** EvalNTGRkWh EvalRRkWh **EvalNTGRtherms** EvalRRtherms EvalER_NTGRkW EvalER_RRkW EvalER_NTGRkWh EvalER_RRkWh EvalER NTGRtherms EvalER RRtherms **Parameter By Strata**

Figure 5: Evaluation Phase 1 Data Specification

Appendix D: Differences between Draft and Final Payment Values

As noted briefly above, there are differences in the Earnings Estimates presented in this memo compared to the draft June 15, 2015 memo. The tables below present the two sets of estimates.

Table 5 - Proposed 2013 Ex-Post Earnings by Utility - Draft Memo Dated June 15, 2015

	kWh Earnings	kW Earnings	Therms Earnings	Total
PG&E	\$8,157,248	\$3,731,710	\$2,287,886	\$14,176,845
SCE	\$7,033,712	\$2,907,608		\$9,941,320
SCG			\$1,988,692	\$1,988,692
SDG&E	\$1,857,525	\$834,859	\$8,750	\$2,701,134
Total Statewide	\$17,048,486	\$7,474,177	\$4,285,328	\$28,807,991

Table 6 – Proposed 2013 Ex-Post Earnings by Utility – Current Memo Dated Aug 14, 2015

	kWh Earnings	kW Earnings	Therms Earnings	Sum of ExPost Earnings	Adjusted ExAnte Review Earnings	Total New Payment
PG&E	\$8,546,888	\$3,778,597	\$2,523,458	\$14,848,943	-\$115,673	\$14,733,270
SCE	\$7,532,558	\$3,043,705		\$10,576,263	-\$121,040	\$10,455,223
SCG			\$2,142,209	\$2,142,209	-\$248	\$2,141,962
SDG&E	\$1,990,531	\$879,146	\$5,753	\$2,875,429	-\$48,217	\$2,827,212
Total Statewide	\$18,069,977	\$7,701,448	\$4,671,419	\$30,442,845	-\$285,178	\$30,157,667

Table 6 - Showing changes from June 15th draft to Final performance statement report

С	D	E	F	G	Н	I	J
	June 15th DRAFT	Amount Removed from June 15 th Draft to Account for Amounts Already Paid with 1st ExAnte Payment, But Were Double Counted in the Draft Ex-Post Payment	8/15 Final before Market Effects (D+E)	Add 5% to Gross LC Savings for Market Effects (Gross LC * 0.05)	8/15 Final after Market Effects (F + G)	Amounts that were paid in ex- post, but should not have been paid in the 1st ExAnte payment + the adjustment due to correcting the database versions	8/15 Final Payment (H + I)
PG&E	\$14,176,845	-\$528,975	\$13,647,870	\$1,201,073	\$14,848,943	-\$115,673	\$14,733,270
SCE	\$9,941,320	-\$184,929	\$9,756,391	\$819,872	\$10,576,263	-\$121,040	\$10,455,223
SCG	\$1,988,692	\$0	\$1,988,692	\$153,517	\$2,142,209	-\$248	\$2,141,962
SDG&E	\$2,701,134	-\$48,204	\$2,652,930	\$222,499	\$2,875,429	-\$48,217	\$2,827,212
Total Statewide	\$28,807,991	-\$762,108	\$28,045,883	\$2,396,962	\$30,442,845	-\$285,178	\$30,157,667

Overview of Differences

There are three key reasons for the differences between the Ex-Post Earnings estimates between the June 15, 2015 draft memo and this current memo. These are each explained in more detail below, and is also contained in the "Earnings_Detail_PrelimExAnte" tab in the accompanying workbook⁶.

http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/Shareholder+Incentive+Mechanism.htm

⁶ This workbook can be found at

1. Market Effects Adder

• **Result:** Earnings estimates increase for all IOUs.

2. 2013 ESPI Database Versions

• **Result:** The earnings estimates increase for PG&E.

3. Reconciliation with 1st ESPI Payment

• **Result:** Due to the overlaps (claims already paid under the first ESPI payment, but also included in the current memo), the earnings estimates decrease for each IOU.

Market Effects Adder

As the IOUs noted in comments, the June 15, 2015 memo neglected to add the 5% adder to the ex-post savings values. Once the ex-post updates were made to the Custom and Uncertain Deemed measures, the total gross savings values were multiplied by 5% and added to the earnings estimates. Please note that the only place where this adder is seen is in the tables presenting earnings values in this memo and the embedded MS Excel workbook. The CPUC and its contractors did not adjust any savings values in order to ensure that all parties could compare the ex-post values presented in this memo and the accompanying workbook and database with the Ex-Post Evaluation Memos published by the evaluation consultants in May 2015.

The result of these changes is that the earnings estimates increase for all IOUs and for each fuel. Table 2 above presents the earnings estimates with and without the 5% adder to illustrate the affect it has on the overall payment. This is also shown in column G in Table 6 above.

2013 ESPI Database Versions

The frozen 2013 ESPI Database (used as the basis for the results in this memo and delivered to stakeholders originally with the June 15, 2015 Draft Ex-Post Earnings Report) is more recent than the version used for the 1st ESPI Payment. The frozen 2013 ESPI Database used as the basis for this memo is based on the 2014 Q4 submittal from the IOUs (referred to as the first submission of the Q8 data in March, 2015). The data used as the basis for the 1st ESPI Payment was the 2014 Q2 data (Q6). Between these two datasets, the primary difference that affected the 2013 claims was for a handful of measures under one PG&E HVAC program. It appears that the updates were made to include building type allowing a more appropriate mapping to the values in the approved workpapers. While at the claim level this resulted in some savings

estimates increasing and some decreasing, the net result was an increase in kWh and kW savings for PG&E. This update resulted in an adjustment that increases PG&E Ex-Ante Review earnings estimate by approximately \$125k. Note that while PG&E's overall adjustment shown in Table 1 and Table 5 show a decrease, this value would have been a larger decrease had it not been increased by this adjustment.

If the reader reviews the MS Excel workbook⁷ in detail, more information on this adjustment can be found on the "Earnings_Detail_PrelimExAnte" tab (in columns AF-AH). Note that when recreating the Ex-Ante Review earnings estimates using the all-inclusive database, the primary difference between the re-creation and the values in the Ex-Ante Review Earnings Resolution is due to the update to these HVAC claims.

These changes are included as part of the adjustments in column I in Table 6 above (the other part of the changes are found in Table 7 below).

Reconciliation with 1st ESPI Payment

As noted in the June 15, 2015 memo, the CPUC and its contractors had not completed the reconciliation with the claims paid under the Resolutions G-3947 and E-4700. This reconciliation is now complete. In short (and explained in more detail below), there were many claims (line item tracking data) that were included in both the Ex-Ante Review (the first ESPI payment) and in the Deemed Ex-Post Review (covered under this memo). If the reconciliation had not been completed, it would have resulted in many claims being included as part of both payments.

The evaluation teams in coordination with the Ex-Ante Team and the CPUC reviewed the overlap claims and determined the appropriate placement for each. Approximately two-thirds of the original overlap claims were assigned to the Ex-Ante Review and the remaining third remained assigned to the Deemed ExPost Review. Since all of the overlap claims were included in both the Draft Ex-Post Earnings Report (dated June 15, 2015) and already paid for under the Ex-Ante Review: 1) those claims that were moved out of Draft Ex-Post Earnings Report caused a decrease in earnings presented in this memo and 2) the claims that remained in this memo had to be deleted out of the Ex-Ante Review (causing an adjustment to the Ex-Ante Review Earnings).

http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/Shareholder+Incentive+Mechanism.htm

⁷ This workbook can be found at

The CPUC and its contractors have already set up a process to ensure future overlapping claims are minimized by finalizing the mapping exercise prior to the Ex-Ante Review process.

The tables below attempt to illustrate the description of differences above. Table 7 presents the earnings estimates associated with the claims that have been officially assigned to the Ex-Post Review (but have already been paid under the first ESPI payment). Table 8 presents the earnings estimates associated with the claims that have been removed from the Ex-Post Review. These claims were already paid under the first ESPI payment.

These tables can be used when comparing how the earnings estimates between the June 15, 2015 memo versus this final memo. The values in Table 7 line up closely with the adjustments presented in Table 1 and Table 5. There are a couple reasons these are not exact: 1) PG&E's adjustment needs to be further adjusted by the change caused by the HVAC updates and 2) other very minor changes in the data between the two frozen datasets. The values in Table 7 are included as part of the adjustments in column I in Table 6 above (the other part of the changes come from the 2013 ESPI database versions mentioned above).

Table 8 should be used when comparing Table 1 in the June 15, 2015 Draft Ex-Post Earnings Report (or Table 4 above) with the "Before Market Effects" earnings estimate in Table 2 above. The difference between these two tables is close to values in Table 8. This can be seen in column E of Table 6 above and comparing to Table 8.

Table 7 – Overlaps – Claims Remaining under the ExPost Review

	kWh Earnings	kW Earnings	Therms Earnings	Total
PG&E	\$192,100	\$71,957	(\$24,403)	\$239,654
SCE	\$66,951	\$54,084	\$0	\$121,035
SCG	\$0	\$0	\$228	\$228
SDG&E	\$30,936	\$15,647	\$61	\$46,645

Table 8 - Overlaps - Claims no Longer under the ExPost Review

	kWh Earnings	kW Earnings	Therms Earnings	Total
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PG&E	\$293,282	\$259,402	(\$23,709)	\$528,975
SCE	\$84,904	\$100,025	\$0	\$184,929
SCG	\$0	\$0	\$19	\$19
SDG&E	\$21,606	\$23,069	\$3,932	\$48,608

Appendix E: Comment / Response Matrix

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PG E	Adjustm ents for Spillover	Table 2 of draft report. Adjustme nts reflected in Tables 1 and 2 of PGE response	Comme nt/Quest ion	The Electric (GWh), Demand (MW) and Natural Gas (MM Therms) values provided in Table 2 of the draft statement should be adjusted upward by 5% to account for spillover. Pursuant to the ESPI Decision (D.13-09-023), "We also intend to award incentives based on net savings goals, adjusted for the effects of "free riders" and 'spillover" (page 36). Elsewhere in the decision, it is stated that "Savings estimates are also increased to account for estimated 5% spillover effects for the 2013-2014 portfolio in the business-as-usual tables, since spillover effects will increase savings total" (page 27). The adjustments are reflected in Tables 1 and 2 below.	This has been incorporated in the payment calculation, memo and is reflected in the accompanying workbooks. Please note that the accompanying Access database (ESPI_2013_Public_v3.accdb) only reflects evaluation results and ESPI first payment adjustments; it does not inlcude the market effects adder so as to remain consistent with evaluation results found in individual studies.

PA	Subject:	Page or Referenc e:	Questio n / Comme nt	Comment or Question:	Response
PG E	Adjustm ents for CFL Carryov er	Table 2 of draft ESPI Statement	Comme nt/Quest ion	The values provided in Table 2 of the draft statement should be adjusted to account for the lifecycle savings of CFLs that are carried over to 2013 from previous cycles of the Upstream Lighting Program (ULP) that are considered to have been installed in 2013. Detail of the adjustments requested to the ex-post ESPI award for 2013 to account for CFL carryover are shown in the worksheet contained in Appendix A. Ex post net-to-gross values used for the calculation, along with negative therms interactive effects, were retrieved from the WO_028 (2010-2012 California Upstream Lighting) Impact Evaluation Addendum. To compute lifecycle savings, we used the workbook provided with the WO_028 impact evaluation report to calculate mean EUL values for Basic Spiral Lamps, A-Lamp CFL, and Reflector CFL categories. The details of the carry-over of stored CFLs are documented in Appendix K of the CPUC's 2010-2012 Energy Efficiency Annual Progress Evaluation Report ("annual report," published	All savings from CFLs purchased in 2010-2012 were already paid earnings in the 2010-2012 shareholder payment. Therefore, any carry-over savings that was identified in Appendix K of the annual report, was only being carried over for goal attainment purposes, not ESPI purposes.

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			III	March 2015). Commission	
				staff allowed the investor-	
				owned utilities (IOUs) to	
				select the proportion of	
				lamps to be treated as	
				installed in 2013 and 2014,	
				subject to a proposed 16%	
				cap on energy savings	
				(GWh) for CFLs as a	
				percentage of each IOU's	
				portfolio goals (described in	
				the annual report as the	
				"stored bulb savings	
				transition election"). Since	
				PG&E achieved a relatively	
				small percentage of total	
				savings from CFLs in 2013-	
				14 (4%), PG&E elected to	
				carry over the maximum	
				allotment of lamps, which	
				yields a total energy savings	
				attributable to CFLs still	
				under the 16% cap. As	
				shown in table K-4 of the	
				annual report, the PG&E	
				carryover for the 2013-2014	
				cycle amounts to 4,233,000	
				lamps. PG&E's stored bulb	
				savings transition election is	
				35% for 2013 and 65% for	
				2014. Since the incentive	
				mechanism has changed	
				over the course of the last	
				cycles, we recount some of	
				the history of the treatment	
				of carryover lamps here:	
				• From 2006-2009, PG&E	
				operated under a shared	
				savings benefit mechanism	

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and was not awarded incentives for CFLs that carried forward. The definition of installation rate was "percent of IOU-discounted CFLs installed by end of 2008" (Final Evaluation Report: Upstream Lighting Program, CALMAC Study ID: CPUC0015.01, table 6, emphasis added). As noted in 2006-2008 Risk/Reward True-Up Decision (D. 10-12-049, page 60): "In any event, nothing in this decision precludes the utilities from seeking credit for energy savings based on the installation of CFLs that were procured and rebated over the 2006-2008 cycle but which were not installed in that period, provided an incentive mechanism is adopted on a going forward basis." • Beginning with 2010-12, installation rate was defined as "the proportion of CFLs rebated through the program that are purchased and then eventually installed" (ULP impact evaluation, page 6-7, emphasis added). • For 2013 and beyond, PC&E is operating under the ESPI incentive mechanism (approved in	

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				D.13-09-023) which allows for claiming savings for all lamps installed during this cycle. The lifecycle savings associated with the carried-over lamps should therefore be counted toward the 2013-14 ex-post ESPI mechanism for measures determined to have been installed during this period (D. 13-09-023).	
PG E	Verificat ion of the ESPI database	Over- Arching	Comme	PG&E accepts the energy savings values presented by Commission staff and appreciates the efforts of the Energy Division and its consultants to provide the IOUs with measure-level data, as this enabled the verification process and gives us better confidence in the results. Ultimately, the savings values are fairly close; however, PG&E was unable to completely match the savings values contained in the ESPI database against our quarterly EEGA submissions. PG&E would	Energy Division and its consultants would also like to work closely on ensuring the quality of data. For 2013, due to time constraints, a frozen 2013 database needed to be set for evaluation purposes. For 2014, we already have the annual submission from PAs that contain lighting disposition updates. We hope to work with all PAs to help finalize this dataset far before 2014 evaluation studies finish.

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				like to work closely with Energy Division staff during the 2014 Ex Post ESPI efforts to streamline the verification process moving forward.	
PG E	Propose d modifica tions to the expost ESPI incentive	Over- Arching. See updated Tables 1 and 2 in PGE response.	Comme	As a result of the 5% increase for spillover and the CFL carryover savings documented above, we recommend that the values associated with PG&E's savings and associated expost earnings in Tables 1 and 2 of the 2013 ESPI Performance Statement Report be updated as follows.	We will apply 5% increase for market effects. For carry-over, all savings from CFLs purchased in 2010-2012 were already paid earnings in the 2010-2012 shareholder payment. Therefore, any carry-over savings that was identified in Appendix K of the annual report, was only being carried over for goal attainment purposes, not ESPI purposes.
SC G	SoCalGa s Supports the Use of EM&V Study Data, Not Best Availabl e Informat ion	Over- Arching	Comme nt/Quest ion	The ESPI Memo identifies a measure group process that was used to update ex ante information, beginning with (1) "applied results from field work," followed by (2) "best available information," and if those two options were not applicable, (3) no update was made. In Decision (D.) 13-09-023, the Commission authorized the ESPI mechanism, including the Ex Post Savings Incentive Component, which is to be evaluated using the following approach:	This issue is not in scope for the performance statement phase of this process, but rather the ex-post results phase, which concluded in May.

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				"To preserve the integrity of	
				the incentive mechanism	
				and ensure that ratepayers	
				fund incentive payments	
				based only [on] reliable	
				data, we will require ex	
				post evaluations as the basis	
				for calculating savings	
				incentive payments for	
				custom projects and for	
				specific "deemed" measures	
				with ex ante parameters	
				that we identify as highly	
				uncertain. Ex post	
				evaluations will be based on	
				adopted EM&V protocols as	
				prescribed in Attachment 2."3	
				The referenced Attachment	
				2 provides further clarity	
				concerning the	
				methodology to be utilized	
				for evaluating unit energy	
				savings:	
				"For custom projects,	
				Commission staff, with	
				assistance from evaluation	
				contractors, will assess the	
				project savings versus	
				savings claimed based on a review of the engineering	
				assumptions (for example	
				ensuring appropriate	
				baseline was used), and	
				conduct on-site	
				measurement to make any	
				necessary adjustments to	
				the savings claim based on	
				actual field operations."4	
				It is SoCalGas'	

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			nt	understanding that the	
				C	
				Commission adopted the	
				use of an ex post evaluation	
				process using on-site	
				measurement in order to calculate ESPI awards. This	
				process was utilized by Commission Staff in some	
				cases; however, in others, it was not. The second item of	
				the measure group process utilized in the ESPI Memo	
				is the application of "best available" information –	
				typically, EM&V studies from older program cycles	
				1 0	
				were employed. However, this approach may not	
				render results consistent	
				with use of ex post EM&V studies with on-site	
				measurement. For example,	
				the 2013 Energy Upgrade California® Home Upgrade	
				Program (HUP) results in the ESPI Memo were	
				extrapolated from an EM&V study conducted for	
				the 2010-2012 program	
				cycle. This approach does	
				not include an on-site	
				measurement of specificIn	
				Decision (D.) 13-09-023, the	
				Commission authorized the	
				ESPI mechanism, including	
				the Ex Post Savings	
				Incentive Component,	
				which is to be evaluated	
				using the following	
				approach:	
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			nt	"To proceed the integrity of	
				"To preserve the integrity of the incentive mechanism	
				and ensure that ratepayers	
				fund incentive payments	
				based only [on] reliable	
				data, we will require ex	
				post evaluations as the basis	
				for calculating savings incentive payments for	
				custom projects and for	
				specific "deemed" measures	
				with ex ante parameters	
				that we identify as highly	
				uncertain. Ex post	
				evaluations will be based on	
				adopted EM&V protocols as	
				prescribed in Attachment	
				2."3	
				The referenced Attachment	
				2 provides further clarity	
				concerning the	
				methodology to be utilized	
				for evaluating unit energy	
				savings:	
				"For custom projects,	
				Commission staff, with	
				assistance from evaluation	
				contractors, will assess the	
				project savings versus	
				savings claimed based on a	
				review of the engineering	
				assumptions (for example	
				ensuring appropriate baseline was used), and	
				conduct on-site	
				measurement to make any	
				necessary adjustments to	
				the savings claim based on	
				actual field operations."4	
				It is SoCalGas'	

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			THE .	understanding that the	
				Commission adopted the	
				use of an ex post evaluation	
				process using on-site	
				measurement in order to	
				calculate ESPI awards. This	
				process was utilized by	
				Commission Staff in some	
				cases; however, in others, it	
				was not. The second item of	
				the measure group process	
				utilized in the ESPI Memo	
				is the application of "best	
				available" information –	
				typically, EM&V studies	
				from older program cycles	
				were employed. However,	
				this approach may not	
				render results consistent	
				with use of ex post EM&V	
				studies with on-site	
				measurement. For example,	
				the 2013 Energy Upgrade	
				California® Home Upgrade	
				Program (HUP) results in	
				the ESPI Memo were	
				extrapolated from an	
				EM&V study conducted for	
				the 2010-2012 program	
				cycle. This approach does	
				not include an on-site	
				measurement of specific	
				projects undertaken by	
				customers in 2013;	
				SoCalGas is not aware of	
				information as to whether	
				the study is an appropriate	
				substitute given the broad	
				HUP alterations to program	
				design in 2013 (as compared	

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				to program features during 2010-2012). SoCalGas does not believe that the process to utilize "best available" information conforms to the specific EM&V requirements outlined in D.13-09-023. For such instances, SoCalGas instead recommends that no update be applied until the time where ex post evaluation studies with on-site measurement can actually be conducted.	
SC G	Key Omissio n to the Draft Report - Does not include Market Effects	Over- Arching	Comme nt/Quest ion	In its review, SoCalGas identified that the Draft Report does not include the impact of market effects. SoCalGas believes this is a key omission that needs to be rectified as part of the Final Report. In D.12-11-015, the Commission directed a five percent market effects adjustment be applied to the energy efficiency portfolio.5 In Resolution (Res.) G-3497, the disposition of the 2013 ESPI award, the Commission applied the five percent market effects adjustment to the ESPI ex ante resource claim.6 Similarly, SoCalGas believes it is consistent with and appropriate to apply the market effects adjustment set out in D.12-	This has been incorporated in the payment calculation, memo and is reflected in the accompanying workbooks. Please note that the accompanying Access database (ESPI_2013_Public_v3.accdb) only reflects evaluation results and ESPI first payment adjustments; it does not include the market effects adder so as to remain consistent with evaluation results found in individual studies.

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SC G	The Draft Report Includes Claim IDs That Are Imprope rly Mapped	Over- Arching	Comme nt/Quest ion	11-015 uniformly to the entire portfolio, including the ex post results. SoCalGas is not aware of any circumstances that would instruct including the market adjustment to the ex ante savings, but not ex post savings. Thus, the Commission should apply the five percent market effects adjustment to the ex post component of the ESPI award. SoCalGas calculates an earnings amount of \$2,142,209 when market effects are applied to the Draft Report. In its review, SoCalGas noticed that the Draft Report included multiple claim identification numbers (Claim IDs) that were included in the incorrect resource component category. For example, certain project or measure results from custom programs were included in the deemed results. SoCalGas believes that the EM&V study results were correctly applied to the savings claims, so no adjustment to the results is necessary. However, for the sake of accuracy, the Claim IDs should be correctly mapped to the proper resource	Noted. Energy division and consultants have made the requested adjustments. However, we could not find a ClaimID indexed on "5001105524". We do believe SCG did mean ClaimID = 2013*SCG3715*5001185524*10 and have changed appropriately.

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				component categories. SoCalGas describes the issues it identified for the Claim IDs below: • The following Claim IDs associated with pipe insulation are custom program results, not deemed measures / savings, and should be moved to the correct resource component category:- 5001173695-5001171413- 5001105524 • The following Claim IDs associated with water kits are custom program results, not deemed measures / savings, and should be moved to the correct resource component category:- 5001169565-5001178161- 5001178006-5001178106- 5001171380-5001170603 • The Energy Upgrade California® Home Upgrade Program is a custom program and should be moved from the deemed resource component to the custom resource component category.	
SD GE	Savings discrepa ncy for "Pass Thru" savings	Table 11 in Resolutio n C-3497 versus values in	Comme nt/Quest ion	In reviewing the Access database provided with the report, SDG&E notes a discrepancy between the savings from the first claim of "Pass Thru" savings as	Please reference Appendix D.
		ex-post database		reported in Resolution C- 3497 Table 11 and the data	

PA	Subject:	Page or Referenc e:	Questio n / Comme nt	Comment or Question:	Response
				supporting the ex post report. Please verify SDG&E's calculation of the Pass Thru savings.	
SD GE	Recomm	Executive Summary	Comme	Although the report is primarily to provide information on the second ESPI installment claim for 2013, it would most useful to have the total portfolio 2013 summary information included in the executive summary section. This would minimize having to cross reference several reports to get total information on 2013 performance (e.g., total portfolio gross and net savings, etc.)	This has been noted for 2014 and we will work towards incorporating all relevant results into a single source where possible. For 2013, please reference Appendix D (concerning the reconciliation of the first and second ESPI payments). Also, the accompanying Access db (ESPI_2013_Public_v3.accdb) has incorporated the review done as part of the first ESPI payment in the form of "evaluated" realization rates. Please read the ESPI_2013_Public_README_Draft.docx document for more details.
SD GE	Recomm endation	Over- Arching	Comme nt	Since this is the final performance report for 2013 ESPI, it would be helpful for the reader to have a brief section covering the total awarded claims in 2014 for the first installment of the ESPI.	Noted.
SD GE	Recomm endation	Over- Arching	Comme	It would then be useful to provide a total portfolio savings table that would total both the first claim of pass through savings and second claim with the ex post/verified savings to show the total portfolio achievement. This would provide clarity as to what the total ESPI for the	This has been noted for 2014 and we will work towards incorporating all relevant results into a single source where possible. For 2013, please reference Appendix D (concerning the reconciliation of the first and second ESPI payments). Also, the accompanying Access db (ESPI_2013_Public_v3.accdb) has incorporated the review done as

PA	Subject:	Page or Referenc e:	Questio n / Comme nt	Comment or Question:	Response
				program year is (first and second claims) and the incremental claim for the second installment that would be requested in the September advice letters.	part of the first ESPI payment in the form of "evaluated" realization rates. Please read the ESPI_2013_Public_README_Draf t.docx document for more details.
SD GE	Recomm endation	Over- Arching	Comme nt	Related to the previous recommendation, it would be useful to provide both the gross and the net savings, for example in Table 2.	Noted. Since ESPI payments were based on life cycle net savings, only these results were primarily presented in the memo. For additional summaries, the database provided can be used.
SD GE	Recomm endation	Over- Arching	Comme nt	The report mentions that it applies stratum-level results to records without any definition of what is stratum-level. Further explanation would help reader in understanding how expost parameters were applied.	Noted and will keep in mind to incorporate for 2014.
SD GE	Recomm	Table 3 of draft statement report	Comme	Table 3 does specifically identify the source of information used to update the savings assumptions whether field work or best available information was part of the ESPI ex post memos or obtained outside of such memos. It would be most useful to actually provide the specific studies used to update specific information. It would provide useful references for future workpapers as they are updated or new measures are introduced.	Noted and will keep in mind to incorporate for 2014.